

REMARKS

Claims 28-34 are pending in this application. The non-final Office Action mailed May 2, 2006 rejected claims 28-34. Claims 28-30 have been amended. No new matter has been added. For the reasons discussed in detail below, Applicants submit that the pending claims are patentable over the references cited by the Examiner. Applicants respectfully request that the Examiner pass this application to issue.

Rejection of Claims Under 35 U.S.C. §102

Claims 28-32 and 34 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,804,766 issued to Noel et al (“Noel”). Claim 33 is rejected under 35 U.S.C. §103(a) over Noel in view of U.S. Patent No. 5,768,423 issued to Aref et al (“Aref”). After carefully considering the Noel and Aref references and the discussion provided in the Office Action, the Applicants submit that the claims in the present application define subject matter that is not anticipated nor rendered obvious over the prior art and hence are patentable.

For example, Noel does not disclose or suggest as recited in at least claim 28 “for each stored NAT connection datum, assigning each of a plurality of different data structure types to the same stored NAT connection datum, wherein each of the plurality of different data structure types are based on at least one of an IP address or a port number.”

First, Noel discloses managing pages of a designated memory object according to selected memory management policies. See Noel's Abstract. Thus, Noel is related to managing physical memory in a virtual memory computer, where address translation hardware translates program-visible virtual addresses to physical addresses. A physical address is an address in primary memory at which the data actually reside. Nowhere, however does Noel disclose or suggest performing Network Address Translations. Thus, Noel does not disclose or suggest stored NAT connection datum, as recited in at least claim 28.

Second, because Noel does not disclose or suggest NAT connection datum, Noel does not disclose or suggest assigning... based on at least one of an IP (Internet Protocol) address or port number. Similarly, Noel therefore, can not disclose or suggest "receiving a request for a NAT connection datum, wherein the request includes an IP address and port number." Thus, for at least this reason, Noel does not anticipate at least claim 28.

Third, while it is correct that Noel does describe using data structures, Noel does not disclose or suggest assigning a plurality of different data structure types to the same stored NAT connection datum, as required by at least claim 28. Instead, what Noel discloses is assigning the same data structure type to manage shared leaf pages. For example, Noel states that "the data structure 400, 500 type used to manage shared leaf pages is the same as the type used to manage shared page table pages 100." Noel, Col. 4, lines 62-65. (Emphasis added). Noel further states, that "by managing and sharing the shared page table pages and the shared leaf pages by a common data structure mechanism 400, 500 the benefits of the developed mechanism can be leveraged to provide benefits in managing the page table pages 100 as well." Noel, Col. 5, lines 7-11. Thus, Noel's data structures are not different data structure types. They are the same data structure types. What is illustrated in Figures 4-5 of Noel are the same data structure types 400,500, merely populated with different fields and data. Changing a field or data within a tree structure type, or a list structure type, does not change the data structure type. It merely changes its content and/or fields. They remain tree data structure types, or list data structure types, respectively. Thus, Noel does not disclose or suggest assigning a plurality of different data structure types, as required by at least claim 28. Therefore, Noel does not anticipate nor render obvious the at least claim 28.

Fourth, Noel does not disclose or suggest "automatically determining one of the plurality of different data structure types best suited to the NAT connection datum." Nor does Noel disclose or suggest "employing the determined data structure type to retrieve the requested NAT connection datum." Noel does not perform any determination to use one of the plurality of different data structure types. Instead, Noel, by its design, appears to use all of its data structure types 400, 500 (and 100) to manage a stored datum.

As described, Noel discloses a Global Section Descriptor (GSD) 400 and a Global Section Table Entry (GSTE) 500 that while they include different information, must be used together in order to translate an address from a process's address space to physical memory. What Noel describes is that:

1. "At the user interface level [process], the name 402 (generally a text string) of the global section is its handle. The operating system resolves this user-visible name to a particular GSD." Noel, Col. 14, lines 26-29.
2. In the GSD, "[t]he GSTX 403 field is an index into the Global Section Table and identifies the associated GSTE." Noel, Col. 13, lines 29-30.
3. "The GSTE... contains an index 512 into the Global Page Table (OPT) [sic] of the first Global Page Table Entry (GPTE) corresponding to this global section." Noel, Col. 13, lines 64-67.
4. "Each valid GPTE contains a Page Frame Number (PFN) of the physical page assigned to the global section..." Noel, Col. 14, lines 14-16.

Noel discloses then that without the GSD data structure type, a process is unlikely to be able to map a global section, because the GSTE does not contain the name field that processes use to reference global sections. Moreover, without the GSTE, a process could find the appropriate GSD, but would likely be unable to access its corresponding physical memory because the GSD contains no references to either the GPT or the PFNs. Thus, both the GSD and the GSTE must be used in conjunction with one another to translate a process's address space to physical memory. Thus, because Noel does not disclose or suggest "determining one of the plurality of different data structure types," or "employing the determined data structure type to retrieve the requested NAT connection datum," Noel can not anticipate nor render obvious the invention claimed in at least claim 28. Therefore, for at least the above reasons, at least claim 28 should be allowed to issue.

Moreover, independent Claims 30 and 34 include similar, albeit different, limitations as those recited in independent Claim 28. For example, recites, among other things, wherein the second data structure type is different from the first data structure type, determining one of the first object retrieval component or the second object retrieval component for retrieval of the connection data object based on the first request, and employing the determined object retrieval component to retrieve the connection data object. Similarly, claim 34 recites, among other things, employing a trie data structure type, employing a data structure type that is different from the trie data structure type, selecting one of

the first data retrieval means or second data retrieval means based on a request for a connection data object. Therefore, these claims are allowable for at least the same reasons as claim 28.

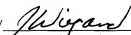
In addition, dependent Claims 29, and 31-33 depend from independent Claims 28 and 30, respectively. Therefore, for substantially the same reasons as for their corresponding independent claims, Claims 29 and 31-33 are also in condition for allowance. Therefore, Applicants respectfully submit that Claims 28-34 are in condition for allowance and should be allowed to issue.

CONCLUSION

By the foregoing explanations, Applicants believe that this response has responded fully to all of the concerns expressed in the Office Action, and believe that it has placed each of the pending claims in condition for immediate allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. Should any further aspects of the application remain unresolved, the Examiner is invited to telephone applicant's attorney at the number listed below.

Dated: July 6, 2006

Respectfully submitted,

By 
Jamie L. Wiegand
Registration No.: 52,361
DARBY & DARBY P.C.
P.O. Box 5257
New York, New York 10150-5257
(206) 262-8900
(212) 527-7701 (Fax)
Attorneys/Agents For Applicant